

## IN THE CLAIMS

1. (Currently amended) A method ~~of classifying defect chips, said method~~ comprising:
  - finding ~~defect locations~~ a location of a first defect on a wafer using a semiconductor defect inspection instrument;
  - analyzing ~~the defect~~ a composition of the first defect using the semiconductor defect inspection instrument; and
  - marking ~~defect locations~~ the location of the first defect on a wafer map using ~~the different types of marks~~ a first mark to identify ~~of different types of defects~~ a type of the first defect.
2. (Currently amended) The method according to claim 1, wherein ~~different types of marks differ according to shape~~ marking the location using a first mark comprises using a first mark with a shape that is dependent upon the type of the first defect.
3. (Currently amended) The method according to claim 1, wherein ~~different types of marks are color differ according to color~~ marking the location using a first mark comprises using a first mark with a color that is dependent upon the type of the first defect.
4. (Currently amended) The method according to claim 1, further comprising graphing ~~defect characteristics~~ a characteristic of the first defect concurrently with marking ~~defect locations~~ the location on the wafer map.
5. (Currently amended) The method according to claim 1, further comprising storing and analyzing ~~defect characteristics~~ a characteristic of the first defect electronically using software.
6. (Currently amended) The method according to claim 1, further comprising:
  - ~~using the marks on the wafer map to prepare graphs to assist in statistically analyzing the defects.~~
  - finding a location of a second defect on the wafer using the semiconductor defect inspection instrument;

analyzing a composition of the second defect using the semiconductor defect inspection instrument; and

marking the location of the second defect on the wafer map using a second mark to identify a type of the second defect; and

using the first and second marks to prepare a graph to assist in statistically analyzing the first and second defects.

7. (Currently amended) A wafer defect map, comprising:  
a schematic representation of a semiconductor wafer, ~~including that includes~~  
demarcations corresponding to the location of chip boundaries; and  
a ~~plurality of markings, each marking corresponding to a wafer defect on the~~  
semiconductor wafer, the marking identifying a type of the defect,  
~~wherein locations a location of the markings marking on the wafer map correspond~~  
corresponding to locations a location of the defects defect on the wafer, and wherein each  
marking is configured to identify a type of defect.

8. (Currently amended) The wafer defect map according to claim 7, ~~wherein~~  
each the marking is configured to identify a the type of the defect by using a color that is  
associated with that the type of the defect.

9. (Currently amended) The wafer defect map according to claim 7, ~~wherein the~~  
markings have different shapes depending on defect type the marking configured to identify  
the type of the defect by using a shape that is associated with the type of the defect.

10. (Currently amended) The wafer defect map according to claim 7, wherein the  
location of the defect and the type of wafer defects the defect is determined using a  
semiconductor defect inspection instrument.

11. (Currently amended) A method ~~of statistically analyzing defects on a~~  
~~semiconductor wafer to improve yield, said method~~ comprising:  
identifying a defect location and a defect type of wafer defects for each of at least two  
defects on a semiconductor wafer;  
determining a chemical composition of ~~the wafer~~ each of the at least two defects;

preparing a wafer defect map to visually represent the defect location and the defect type for each of the at least two wafer defects; and

~~preparing one or more charts and/or graphs to statistically represent defect~~  
characteristics

statistically representing the at least two defects with at least one visual aid.

12. (Currently amended) The method according to claim 11, ~~wherein markings are placed~~ further comprising, for each of the at least two defects, placing a marking on the wafer defect map that corresponds to the defect location ~~on the wafer defect map~~  
~~corresponding to defect locations.~~

13. (Currently amended) The method according to claim 12, wherein ~~preparing a wafer defect map to visually represent the location and type of the wafer defects comprises:~~  
placing a marking comprises using marks on the wafer defect map a marking that are  
~~assigned a color~~ is color-coded based upon the ~~type of the wafer defect~~ type.

14. (Currently amended) The method according to claim 11, wherein identifying a the defect location and the defect type ~~of wafer defects~~ comprises using an optical or scanning electron microscope ~~to identify the location and type of wafer defects.~~

15. (Currently amended) The method according to claim 11, wherein determining a chemical composition ~~of the wafer defects~~ comprises performing an AES analysis on each  
of the at least two defects ~~to determine the compositions thereof.~~

16. (Original) The method according to claim 11, wherein ~~preparing one or more charts and/or graphs~~ statistically representing the at least two defects comprises constructing a table ~~comprising~~ having columns corresponding to the defect type, ~~defect~~ the chemical composition, a defect cause, and the defect location.

17. (Currently amended) The method according to claim 11, wherein ~~preparing one or more charts and/or graphs~~ statistically representing the at least two defects comprises preparing a bar ~~graphs representing the number of~~ graph that represents the at least two defects according to the defect type.

18. (Currently amended) The method according to claim 11, wherein preparing a the wafer defect map to visually represent the location and type of the wafer defects, and ~~preparing one or more charts or graphs to statistically represent defect characteristics are~~ statistically representing the at least two defects is performed electronically.

19. (Currently amended) The method according to claim 18, wherein identifying a the defect location and the defect type of wafer defects, and determining a the chemical composition of the wafer each of the at least two defects are is also performed electronically.

20. (Currently amended) The method according to claim 11, further comprising analyzing the ~~one or more charts or graphs~~ at least one visual aid to determine appropriate corrective action in a wafer fabrication process.

21. (New) A method of statistically analyzing wafer defects on a semiconductor wafer to improve yield, said method comprising:

identifying a location and a type of the wafer defects;

determining a composition of the wafer defects;

preparing a wafer defect map to visually represent the location and the type of the wafer defects; and

preparing a bar graph that represents a number of the wafer defects according to the type of the wafer defects.